

**PATENT COOPERATION TREATY**

From the  
**INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY**

To:  
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**PCT**

**NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 71.1)

Date of Mailing  
(day/month/year)

**27 JUN 2005**

Applicant's or agent's file reference

**IMPORTANT NOTIFICATION**

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

PCT/US03/32583

16 October 2003 (16.10.2003)

16 October 2002 (16.10.2002)

Applicant

ANDREW CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

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## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>GRA26 002 PC</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/US03/32583</b>	International filing date (day/month/year) <b>16 October 2003 (16.10.2003)</b>	Priority date (day/month/year) <b>16 October 2002 (16.10.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>IPC(7): H04M 11/00; H04Q 7/20; G08B 23/00 and US Cl.: 455/456.1, 404.2, 432.1, 436,-437, 423, 67.11; 342/450, 701/300; 340/825.37, 525.49</b>		
Applicant <b>ANDREW CORPORATION</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_ sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand <b>12 May 2004 (12.05.2004)</b>	Date of completion of this report <b>04 May 2005 (04.05.2005)</b>
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer <b>Kamran Afshar</b> Telephone No. 571-272-7796

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/US03/32583

**I. Basis of the report**

## 1. With regard to the elements of the international application:\*

 the international application as originally filed. the description:pages 1-12 as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the claims:pages 13-19, as originally filedpages NONE, as amended (together with any statement) under Article 19pages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the drawings:pages 1-4, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_. the sequence listing part of the description:pages NONE, as originally filedpages NONE, filed with the demandpages NONE, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

 the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in printed form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages NONE the claims, Nos. NONE the drawings, sheets/fig NONE5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**International application No.  
PCT/US03/32583**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>NONE</u>	YES
	Claims <u>1-40</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-40</u>	NO
Industrial Applicability (IA)	Claims <u>1-40</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Please See Continuation Sheet

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**VI. Certain documents cited****1. Certain published documents (Rule 70.10)**

Application No <u>Patent No.</u>	Publication Date <u>(day/month/year)</u>	Filing Date <u>(day/month/year)</u>	Priority date (valid claim) <u>(day/month/year)</u>
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**2. Non-written disclosures (Rule 70.9)**Kind of non-written disclosureDate of non-written disclosure  
(day/month/year)Date of written disclosure referring to  
non-written disclosure  
(day/month/year)

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(To be used when the space in any of the preceding boxes is not sufficient)

Claims 1-40 lack novelty under PCT Article 33(2) as being anticipated by Saleh (U.S. Patent 6,212,391 B1).

With respect to claim 1, Saleh discloses in a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance, and having a mobile-appliance location determining system for determining the location of the mobile-appliance in the coverage area, a method of collecting test and measurement data (See e.g. Title, Abstract, Figs. 3-12), comprising the steps of: (a) selecting one of the plural base stations to search for a transmitting mobile appliance; (b) at the selected one of the plural base stations, searching for a transmitting mobile appliance; (c) once a transmitting mobile appliance is detected, determining if the quality of the signal reception from the transmitting mobile appliance is acceptable; (d) selecting a set of the plural base stations in the vicinity of the transmitting mobile appliance; (e) at ones of the plural base stations in the selected set, measuring the signal received from the transmitting mobile-appliance; and, (f) storing the measured signal data (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 2, Saleh discloses searching for a transmitting mobile appliance inherently comprises the step of scanning frequency, time slot and code as a function of a set of operating parameters of the wireless communication system (See e.g. 301 of Fig. 3, Co. 5, Lines 55-67, 901 of Fig. 9, Co. Co. 9, Lines 17-31).

Regarding claim 3, Saleh discloses determining the signal quality is inherently a function of at least one of a received signal strength, a bit error rate or a frame error rate (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 4, Saleh discloses measuring at one of the plural base stations in the selected set includes measuring the carrier to interference ratio and received signal strength (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 5, Saleh discloses measuring at one of the plural base stations in the selected set includes the steps of obtaining a signal sample from the transmitting mobile-appliance (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 6, Saleh discloses measuring at one of the plural base stations in the selected set includes the step of extracting information in the transmitting mobile appliance's signal (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 7, Saleh discloses extracting information includes the steps of demodulating and decoding the transmitting mobile-appliance's signal (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 8, Saleh discloses the information in the transmitting mobile appliance's signal comprises handoff assistance

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data (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 9, Saleh discloses the signal sample comprises handoff assistance data (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 10, Saleh discloses the handoff assistance data comprises a received signal strength measured at the mobile appliance from at least one of the plural base stations in the selected set (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 11, Saleh discloses aborting the collection of test and measurement data if the system is tasked to locate a mobile appliance.

With respect to claim 12, Saleh discloses in a method of collecting test and measurement data from a wireless communication system having a plurality of base stations defining a signal coverage area for communication with a mobile-appliance (See e.g. Title, Abstract, Figs. 3-12), wherein the base stations communicate with the mobile-appliance on a forward link transmission and the mobile appliance communicates with the base station on a reverse link transmission, the improvement comprising collecting forward and reverse data with equipment installed at the base stations only (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 13, Saleh discloses the reverse link data and the forward link data are collected substantially simultaneously (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 14, Saleh discloses the forward link data includes received signal strength from one or more neighboring base stations (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 15, Saleh discloses collecting forward and reverse data is accomplished during a process of geo-locating the mobile appliance (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 16, Saleh discloses the step of extracting the reverse data from the transmitting mobile-appliances signal (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 17, Saleh discloses extracting comprises the steps of demodulating and decoding a portion of the transmitting mobile-appliances signal (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

With respect to claim 18, Saleh discloses in a method of collecting test and measurement data in a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance (See e.g. Title, Abstract, Figs. 3-12), the improvement wherein the test and measurement data is collected from transmissions between the mobile-appliance and the base stations during normal operation of the communication system and without adding any calling traffic to the network (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 19, Saleh discloses the wireless communication system further comprises a geo-location system for locating a mobile appliance within the communication system and the test and measurement data is collected by the geo-location system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

With respect to claim 20, Saleh discloses collecting test and measurement data in a wireless communication system having a plurality of base stations defining a signal coverage area for communicating with a mobile-appliance (See e.g. Title, Abstract, Figs. 3-12) and having a mobile appliance location determining system for determining the location of the mobile appliance in the coverage area, the improvement wherein the test and measurement data is collected by the location determining system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 21, Saleh discloses the location determining system collects the data during the process of locating the mobile appliance in response to a geo-location request (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 22, Saleh discloses the location determining system collects the data only when the location determining system is in an otherwise idle state (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 23, Saleh discloses the location determining system aborts the collection of data when a geolocation request is received by the location determining system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

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With respect to claim 24, Saleh discloses a wireless communication system with a network overlay geo-location system for locating mobile appliances in communication with the wireless communication system a method for system-initiated test and measurement data collection (See e.g. Title, Abstract, Figs. 3-12) comprising the steps of selecting a probe area and tasking a probe geo-location sensor associated with the probe area to search for an active mobile appliance operating within the probe area; selecting a probe mobile appliance from the probe area; selecting other geo-location sensors proximate to the probe area to detect a signal from the probe mobile appliance; measuring geo-location parameters and signal quality parameters of the probe mobile appliance signal at the probe geo-location sensor and at ones of the other geo-location sensors; storing the measured signal quality parameters; and, monitoring for receipt of a location request by the geo-location system and aborting the system-initiated test and measurement data collection after receipt of a location request by the geo-location system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 25, Saleh discloses the geo-location parameters are selected from the group of TOA and AOA measurements (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 26, Saleh discloses the signal quality parameters are selected from the group of carrier signal to interference ratio, received signal strength, bit error rate, frame error rate, and signal to noise ratio (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 27, Saleh discloses extracting handoff assistance information from the probe mobile appliance (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 28, Saleh discloses extracting includes the step of demodulating and decoding a portion of the probe mobile appliance signal, portion determined by frequency of handoff assistance information (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 29, Saleh discloses searching for an active mobile appliance comprises the step of scanning frequency, time slot and code as a function of operating parameters of the wireless communication system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

With respect to claim 30, Saleh discloses in a method of operating a geo-location system that geo-locates a mobile appliance in response to an external geo-location request where the mobile appliance is in communication with a wireless communication system including a network overlay geo-location system with plural base stations where each of the base stations serves at least one sector (See e.g. Title, Abstract, Figs. 3-12), the improvement comprising collecting test and measurement information with the geo-location system when the geo-location system is in an otherwise idle state (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 31, Saleh discloses the collecting of test and measurement information is aborted when the geo-location system is no longer in the idle state (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 32, Saleh discloses the test and measurement information is collected without adding calling traffic to the wireless communication system (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 33, Saleh discloses the test and measurement information is collected on both forward and reverse communication links substantially simultaneously (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 34, Saleh discloses the test and measurement information is collected on equipment installed only at ones of the plural base stations (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 35, Saleh discloses the test and measurement information is collected from plural sectors according to a predetermined schedule (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 36, Saleh discloses the test and measurement information includes obtaining signal quality parameters for a probe mobile appliance (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 37, Saleh discloses the signal quality parameters are selected from the group of carrier signal to interference ratio, received signal strength, bit error rate, frame error rate, and signal to noise ratio (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 38, Saleh discloses the step of extracting handoff assistance information from the probe mobile appliance

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(See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 39, Saleh discloses the step of extracting includes the step of demodulating and decoding a portion of the signal from the probe mobile appliance wherein portion is determined by frequency of handoff assistance information (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

Regarding claim 40, Saleh discloses the handoff assistance information includes received signal strength from ones of plural base stations (See e.g. Co. 3, Line 35 - Co. 4, Line 58, Co. 5, Line 55 - Co. 6, Line 25, Figs. 1-6).

----- NEW CITATIONS -----